

See

QR
180
I5

Immunochemistry

an international journal of molecular immunology

VOLUME 13, 1976 INDEX

U.I.C.C.

JAN 24 1977

LIBRARY



Pergamon Press

OXFORD

NEW YORK

FRANKFURT

Board of Regional Editors

- Prof. FRED KARUSH (Chairman of the Board), Department of Microbiology, School of Medicine, University of Pennsylvania, Philadelphia, PA 19174, U.S.A.
- Prof. GORDON L. ADA, Microbiology Department, The John Curtin School of Medical Research, P.O. Box 334, Canberra City, A.C.T. 2601, Australia.
- Prof. ALAIN BUSSARD, Institut Pasteur, 25 rue du Docteur Roux, Paris, France.
- Prof. HENRI ISLICKER, Université de Lausanne, Institut de Biochimie, 21 rue du Bugnon, CH-1011, Lausanne, Switzerland.
- Prof. MARIAN E. KOSHLAND, Department of Bacteriology and Immunology, University of California, Berkeley, CA, 94720, U.S.A.
- Dr. ROALD S. NEZLIN, Institute of Molecular Biology, Academy of Science, Vavilov str. 32, Moscow W-312, U.S.S.R.

Editor for Book Reviews

Dr. ALLAN L. GROSSBERG, Department of Immunology Research, Roswell Park Memorial Institute, 666 Elm Street, Buffalo, NY 14263, U.S.A.

Founding Editor

Prof. DAN H. CAMPBELL

Advisory Editors

G. I. ABELEV Moscow, U.S.S.R. (1979)	HOWARD M. GREY Denver, Colorado (1979)	GRACE I. PARDOE Birmingham, England (1979)
ETTORE APPELLA Bethesda, Maryland (1978)	A. E. GURVICH Moscow, U.S.S.R. (1979)	CHARLES W. PARKER St. Louis, Missouri (1977)
M. Z. ATASSI Rochester, Minnesota (1979)	JOSEPH HAIMOVICH Rehovoth, Israel (1979)	R. M. E. PARKHOUSE London, England (1978)
R. W. BALDWIN Nottingham, England (1977)	DONALD R. HOFFMAN Omaha, Nebraska (1977)	J. R. L. PINK Basle, Switzerland (1979)
L. BERRENS Utrecht, Netherlands (1977)	KATHERINE L. KNIGHT Chicago, Illinois (1979)	MORRIS REICHLIN Buffalo, New York (1979)
G. BORDENAVE Paris, France (1976)	RICHARD M. KRAUSE New York, N.Y. (1976)	JAROSLAV REJNEK Prague, Czechoslovakia (1978)
J. DONALD CAPRA Dallas, Texas (1978)	P. H. LAMBERT Geneva, Switzerland (1977)	FRANK F. RICHARDS New Haven, Connecticut (1978)
P.-A. CAZENAVE Paris, France (1977)	IVAN LEFKOVITS Basel, Switzerland (1978)	JOHN H. ROCKEY Philadelphia, Pennsylvania (1978)
F. CELADA Rome, Italy (1976)	MYRON A. LEON Detroit, Michigan (1978)	E. RUDE Freiburg-Zähringen, Germany (1976)
HARVEY R. COLTEN Boston, Massachusetts (1978)	PAUL LIBERTI Philadelphia, Pennsylvania (1979)	ANNELIESE SCHIMPL Wurzburg, West Germany (1977)
M. J. CRUMPTON London, England (1978)	ROSE LIEBERMAN Bethesda, Maryland (1978)	DENNIS STANWORTH Birmingham, England (1976)
GARY S. DAVID La Jolla, California (1978)	JOHN R. LITTLE, Jr. St. Louis, Missouri (1979)	ROBERT M. STROUD Birmingham, Alabama (1979)
EUGENE D. DAY Durham, California (1978)	FRANCIS LOOR Basel, Switzerland (1976)	G. TORRIGIANI Geneva, Switzerland (1978)
KEITH J. DORRINGTON Toronto, Canada (1979)	B. MACH Geneva, Switzerland (1978)	JOSE URIEL Villejuif, France (1976)
STANISLAW DUBISKI Toronto, Canada (1977)	MART MANNIK Seattle, Washington (1979)	SAYAKA UTSUMI Osaka, Japan (1976)
MARIANNE L. EGAN Dwight, California (1977)	J. J. MARCHALONIS Victoria, Australia (1977)	J. P. VAERMAN Brussels, Belgium (1978)
BERNARD F. ERLANGER New York N.Y. (1979)	DAVID G. MARSH Baltimore, Maryland (1977)	EDWARD W. VOSS, Jr. Urbana, Illinois (1978)
JULIAN B. FLEISCHMAN, St. Louis, Missouri (1978)	E. B. MERCHANT Bethesda, Maryland (1979)	MARTIN WEIGERT Philadelphia, Pennsylvania (1979)
ARNOLD FROESE Winnipeg, Manitoba, Canada (1978)	JACOB B. NATVIG Oslo, Norway (1976)	ALAN R. WILLIAMSON London, England (1976)
HUGH H. FUDENBERG Charleston, South Carolina (1977)	ULF NILSSON Philadelphia, Pennsylvania (1979)	
ROBERT J. GENCO Buffalo, New York (1977)	KAORU OONOUE Fukuoka, Japan (1976)	

Publishing and Advertising Offices

Pergamon Press Ltd., Headington Hill Hall, Oxford, OX3 0BW, England

Pergamon Press Inc., Maxwell House, Fairview Park, Elmsford, N.Y. 10523, U.S.A.

Published monthly

Annual Subscription Rates 1977

For libraries, research establishments and all other multiple-reader institutions: (\$112.00). This rate is inclusive of postage and insurance. All subscription enquiries should be addressed to: The Subscription Fulfillment Manager, Pergamon Press Ltd., Headington Hill Hall, Oxford, OX3 0BW, England.

Specially Reduced Rates to Individuals

In the interests of maximizing the dissemination of the research results published in this important international journal, we have established a two-tier price structure. Any individual, whose institution takes out a library subscription, may purchase a second or additional subscription for personal use at the reduced rate of \$30.00 per annum.

Microform Subscriptions and Back Issues

Back issues of all previously published volumes are available in the regular editions and on microfilm and microfiche. Current subscriptions are available on microfiche simultaneously with the paper edition and on microfilm on completion of the annual index at the end of the subscription year.

Copyright © 1976 Pergamon Press Ltd.

No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means: electronic, electrostatic, magnetic tape, mechanical, photocopying, recording or otherwise, without permission in writing from the publishers.

PERGAMON PRESS

HEADINGTON HILL HALL, OXFORD, OX3 0BW
MAXWELL HOUSE, FAIRVIEW PARK, ELMSFORD, N.Y. 10523

LIST OF CONTENTS

30

JANUARY

K. Eichmann, G. Uhlenbruck and B. A. Baldo: Similar combining specificities of invertebrate precipitins and mouse myeloma protein J 539 for β (1 → 6) galactans	1
M. Z. Atassi, C. L. Lee and A. F. S. A. Habeeb: Enzymic and immunochemical properties of lysozyme—XII. Delineation of the reactive site around the two central disulfides by immunochemical and conformational studies of derivatives of the two disulfide peptide	7
R. E. Spitzer, Ann E. Stitzel and Joan Urmson: Interaction of properdin convertase and properdin in the alternative pathway of complement activation	15
C. DeLisi and G. I. Bell: Plaque morphology as an antibody specificity marker: an analysis of the physical chemical foundations of the method	21
B. Goldstein and C. DeLisi: Immunodiffusion in gels containing erythrocyte antigen—II. Analysis of experiments involving the diffusion of antiserum from a circular well	29
E. D. Sevier and R. A. Reisfeld: Semi-automatic solid-phase double-antibody radioimmunoassay for β_2 -micro-globulin	35
C. Mihaesco, Edith Mihaesco, R. Miglierina, J. Lamaziere, J. P. Roy and M. Seligmann: Physicochemical and immunological properties of a μ chain disease protein	39
J. P. Pépin, A. Faure and P. Jollès: Observation of an immunological cross reactivity between human and <i>Nephthys hombergii</i> (Annelid) lysozymes	47
L. M. Krausz, A. L. Grossberg and D. Pressman: The chemical nature of the combining site of rabbit anti- <i>p</i> -azophenylphosphorylcholine antibody	51
A. Rubinstein, J. G. Gatien and E. Merler: Fractionation of the non-histone proteins of antigen-reactive human lymphocytes: criteria for the specificity of antigen uptake	59
M. Heidelberger and W. Nimmich: Immunochemical relationships between bacteria belonging to two separate families: pneumococci and <i>Klebsiella</i>	67
Ludmila A. Zamchuk, Natalia A. Braude and D. M. Goldfarb: Immunogenic properties of bacteriophage SPO1 and T4 DNA photooxidized in the presence of methylene blue, irradiated with ultra violet light or containing 5-bromodesoxyuridine	81
 Communication to the Editor	
R. Vrba, E. Alpert and K. J. Isselbacher: Immunological heterogeneity of serum carcinoembryonic antigen (CEA).	87
Book Reviews	91
Announcement	95

FEBRUARY

Maria Prat and P. M. Comoglio: Involvement of sialic acids in the immunological specificity of plasma membrane glycoproteins	97
R. T. Reese and J. J. Cebra: Comparison of the antibody produced by DNCB fed, sensitized and conventionally immunized strain 13 guinea pigs	103
B. Delpech, Marie-Noëlle Vidard et Annie Delpech: Caractérisation immunochimique et immunohistologique d'une glycoprotéine associée au système nerveux	111
M. Segerling and F. Müller: Effect of enzyme inhibitors and influence of ionic strength during the interaction of EAC1-3 and C5	117
Frances L. Owen and M. W. Fanger: Studies on the human T-lymphocyte population—IV. The isolation of T-lymphocyte antigens from peripheral lymphocytes	121
Frances L. Owen, G. M. Bernier and M. W. Fanger: Studies on the human T-lymphocyte population—V. Isolation of T-lymphocyte antigens from human renal failure serum	129
G. J. Doellgast and A. G. Plaut: Purification of human IgA by salt-mediated hydrophobic chromatography	135
W. H. Sawyer and D. J. Winzor: Thermodynamic requirements for the cross-linking theory of lymphocyte activation: the interpretation of dose response curves	141
J. W. Fett and H. F. Deutsch: The variability of human λ -chain constant regions and some relationships to V-region sequences	149
D. I. Stott: Biosynthesis and assembly of IgM. Addition of J chain to intracellular pools of 8S and 19S IgM	157
B. O. Barger and F. P. Inman: Physico-chemical characterization of murine J chain	165
Y. Kumazawa, A. Shibusawa, T. Suzuki and K. Mizunoe: Separation of an adjuvant-active glycolipid lacking peptide moiety from wax D preparation of <i>Mycobacterium tuberculosis</i> strain Aoyama B	173
 Speculation	
R. V. Blanden, A. J. Hapel and D. C. Jackson: Mode of action of Ir genes and the nature of T cell receptors for antigen	179

MARCH

M. Freedman, R. Merrett and W. Pruzanski: Human monoclonal immunoglobulins with antibody-like activity	193
N. J. Calvano and T. B. Tomasi: High temperature trypsinolysis of human IgA: isolation of the Fc α fragment	203
R. A. Margni, Carmen B. Paz and Maria E. Cordal: Immunochemical behaviour of sheep non-precipitating antibodies isolated by immunoabsorption	209
S. J. Aggarwal and W. J. Mandy: Lagomorph IgG hinge region: allotype associated amino acid sequence variations	215
J. Teherani and W. J. Mandy: Constant region IgG allotypes in cottontail rabbits: group E allelic polymorphism	221
W. J. Canady, S. Westfall, G. H. Wirtz and D. A. Robinson: The nature of human C1-esterase: the hydrophobic nature of its binding site and pH dependence of the kinetic constants	229
V. J. Iacono, M. A. Taubman, D. J. Smith and E. C. Moreno: A spectrophotometric procedure for quantitation of antibody directed to bacterial antigens	235
Y. Nabeshima, T. Ikenaka and T. Arima: N- and C-terminal amino acid sequences of a γ -heavy chain disease protein YOK	245
Elisabeth Raeppler, H.-U. Hill and M. Loos: Mode of interaction of different polyanions with the first (C1, C1), the second (C2) and the fourth (C4) component of complement—I. Effect on fluid phase C1 and on C1 bound to EA or to EAC4	251
M. Loos, J. E. Volanakis and R. M. Stroud: Mode of interaction of different polyanions with the first (C1, C1), the second (C2) and the fourth (C4) component of complement—II. Effect of polyanions on the binding of C2 to EAC4b	257
Deborah J. Cameron and B. F. Erlanger: Nucleic acid-reactive antibodies of restricted heterogeneity	263
M. D. Melamed: Amino acid sequence of the pFc' fragment of guinea-pig IgG ₁	271
Communications to the Editors	
M. D. Melamed: Classification of IgG ₁ and IgG ₂ isotypes	281
R. Vrba, E. Alpert, K. J. Isselbacher and R. W. Jeanloz: Studies on carcinoembryonic antigen (CEA): effect of carbohydrate and synthetic glycopeptides on CEA competitive-inhibition radioimmunoassays	285

APRIL

P. Dupouey, A. Billecocq and M. Lefroit: Comparative study of the immunological properties of galactosyldi-glyceride and galactosylceramide included within natural membranes	289
W. T. Blue and C. F. Lange: Age related carbohydrate content of mouse kidney glomerular basement membrane and its reactivity to antistreptococcal membrane antisera	295
R. P. Taylor and D. Gettman: A chemical probe of the active site of anti-trinitrophenyl antibodies	299
O. M. Pitts, V. A. Varitek and E. D. Day: The extensive cross-reaction of several syngeneic rat-anti-BP antiseraums with myelin basic proteins (BP) of other species	307
M. Vuento, E. Ruoslahti, Helena Pihko, T. Svenberg, T. Ihämäki and M. Siurala: Carcinoembryonic antigen-like substance in gastric juice	313
Angela Martin, P. J. Lachmann, Lise Halbwachs and M. J. Hobart: Haemolytic diffusion plate assays for Factors B and D of the alternative pathway of complement activation	317
M. Tomana, W. Niedermeier, J. Mestecky and F. Skvaril: The differences in carbohydrate composition between the subclasses of IgA immunoglobulins	325
D. H. Conrad, I. Berczi and A. Froese: Characterization of the target cell receptor for IgE—I. Solubilization of IgE-receptor complexes from rat mast cells and rat basophilic leukemia cells	329
C. Webb, D. Teitelbaum, A. Herz, R. Arnon and M. Sela: Molecular requirements involved in suppression of EAE by synthetic basic copolymers of amino acids	333
R. Gollwitzer, E. Hahn, Helga Lotter, H. Nowack and R. Timpl: Immunochemistry of bovine fibrinogen—II. Analysis by immunoabsorption of the antibody response against three large cyanogen bromide peptides	339
W. König and K. Ishizaka: Binding of rat IgE with the subcellular components of normal rat mast cells	345
R. Eisenberg: The specificity and polyvalency of binding of a monoclonal rheumatoid factor	355
O. K. Baranov: Distribution of Lpm-allotypic determinants among molecules of mink serum α_2 -lipoproteins	361

MAY

L. Berrens, J. Van Rijswijk-Verbeek and C. L. H. Guikers: Characteristics of complement consumption by atopic allergens	367
G. Castello, Wilma Buffolano, A. Germano and S. Zappacosta: A quantitative study of the clonality of the antibody response of rabbits to the <i>p</i> -azobenzoate group	373
Z. Swierczynska, G. Wozniczko-Orlowska and H. Maldyk: An IgD myeloma protein with anti-streptolysin O activity	379
K. J. Clemetson, M. Bertschmann, S. Widmer and E. F. Lüscher: Water-soluble P-815 mastocytoma membrane antigens: separation of tumour-associated antigens from histocompatibility antigens	383
P. Czernichow, F. Dray and J. Ronne: Immunochemical analysis of rabbit antibodies against oxytocin	389

MAY—continued

R. Spitzer, Ann Stitzel, Linda Florio and Joan Urmson: Inhibition of the alternative pathway of complement activation by a serum factor generated during transplant rejection	395
J. Teherani and W. J. Mandy: Constant region IgG allotypes in hares: group e allelic polymorphism	401
B. K. Seon and D. Pressman: Distribution of iodine among various parts of iodinated normal and monoclonal human IgG molecules	407
H. Metzger, D. Budman and P. Lucky: Interaction of IgE with rat basophilic leukemia cells—V. Binding properties of cell free particles	417
S. O. Olusi, J. C. Wallwork, R. A. Elegbe and H. McFarlane: Immunological and immunochemical properties of the giant African snail (<i>Acathina fulica</i>) hemocyanin	425
C. Moreno, Barbara M. Courtenay and J. G. Howard: Molecular size and structure in relation to the tolerogenicity of small fructosans (Levans)	429
M. Wagstaff, A. Broughton and F. R. Jones: The reaction kinetics of gastric intrinsic factor and IgG intrinsic factor blocking antibody: a soluble system	437
Anne Perrudet-Badoux, R. A. Binaghi and Yolande Boussac-Aron: Production of different classes of immunoglobulins in rats infested with <i>Trichinella spiralis</i>	443
E. W. Voss, Jr., W. Eschenfeldt and R. T. Root: Fluorescein: a complete antigenic group?	447
K. Furuchi, M. Kato, T. Nakamura and J. Koyama: Further evidence for preferential production of IgG2 anti-DNP antibody in guinea pigs immunized with DNP- <i>Escherichia coli</i>	455
T. Aoki, A. Shimizu and Y. Yamamura: Leucocyte chemotactic factor generated by tryptic digestion of human IgM	461

Communications to the Editors

B. N. Manjula and C. P. J. Glaudemans: Homogeneous, anti-galactan immunoglobulins: the question of specificity	469
R. J. Sebaldt: On the estimation of antibody titres by the haemagglutination technique	473
M. Menegozzo, D. Geraci and Anna Ruffilli: Isolation and characterization of an allergenic fraction from <i>Parietaria officinalis</i> pollen	475

Preliminary Communication

M. Worwood, B. M. Jones and A. Jacobs: The reactivity of isoferritins in a labelled antibody assay	477
--	-----

JUNE

L. J. McCumber and L. W. Clem: A comparative study of J chain: structure and stoichiometry in human and nurse shark IgM	479
B. Geiger, Y. Ben-Yoseph and Ruth Arnon: Immunological relationships among hexosaminidases of different species	485
Anna L. Tan-Wilson, M. Reichlin and R. W. Noble: Properties of goat anti-human hemoglobin antibodies fractionated on subunit affinity columns	491
Gillian Sapeika, D. Absolom and M. H. V. Van Regenmortel: Three antigenic determinants in histone F3 from chicken erythrocytes	499
M. H. V. Van Regenmortel and Gwendoline Hardie: Immunochemical studies of tobacco mosaic virus—II. Univalent and monogamous bivalent binding of IgG antibody	503
R. M. Freed, J. H. Rockey and R. C. Davis: Circular dichroism of hapten-antibody complexes: studies of tryptophanyl residue involvement in the antibody combining sites of MOPC-315 protein heavy and light chain subunits, reconstituted MOPC-315 protein and its Fv fragment	509
G. B. Orin, R. C. Davis, R. M. Freed and J. H. Rockey: Circular dichroism of hapten-antibody complexes: calculation of the interaction of a trinitrophenyl hapten with tryptophan	517
U. Hämmерling, C. Mack and H. G. Pickel: Immunofluorescence analysis of Ig determinants of mouse thymocytes and T cells	525
U. Hämmерling, H. G. Pickel, C. Mack and D. Masters: Immunochemical study of an immunoglobulin-like molecule of murine thymocytes	533
C. Nivet et A. M. Staub: Analyse des sites spécifiques O présents sur l'antigène de Boivin et sur le polyoside dégradé de <i>Salmonella typhi</i>	539
M. Z. Atassi, A. F. S. A. Habeeb and C.-L. Lee: Immunochemistry of serum albumin—II. Isolation and characterization of a fragment from the first third or bovine serum albumin carrying almost all the antigenic reactivity of the protein	547
Announcements	557

JULY

Nan B. Nutt, A. L. Grossberg and D. Pressman: Raised bispecific anti- <i>p</i> -azophenylphosphorylcholine antibodies reactive with nitroiodohydroxyphenylacetyl	559
J. H. Pincus, B. D. Kahan and K. K. Mittal: A role for cAMP in the preparation of human platelets for the extraction of histocompatibility antigens	565
R. E. Cone and Wendy C. Brown: Isolation of membrane associated immunoglobulins from T lymphocytes by non-ionic detergents	571

JULY—continued

R. P. Gorshkova, V. A. Zubkov and Y. S. Ovodov: Chemical and immunochemical studies on lipopolysaccharide from <i>Yersinia pseudotuberculosis</i> type VI	581
V. K. Podgorodnichenko, A. Ya. Goncharova and A. M. Poverenny: Immunochemical study of DNA modified by aminomethylol amino acid derivatives	585
P. Willadsen and P. G. Williams: Isolation and partial characterization of an antigen from the cattle tick, <i>Boophilus microplus</i>	591
J. M. Conroy and A. A. Marucci: Immunochemical studies of horseradish peroxidase: factors affecting the inhibition of enzyme activity by specific antibody	599
D. G. Klapper, R. A. Finkelstein and J. D. Capra: Subunit structure and N-terminal amino acid sequence of the three chains of cholera enterotoxin	605
D. N. Misra, C. T. Ladoulis, T. J. Gill III and H. Bazin: Lymphocyte plasma membranes—V. Immunoglobulins on isolated plasma membranes of the thymic and splenic lymphocytes of the rat	613
S. Chaichanawong and S. Sirisinha: Anti-DNP response in gibbons (<i>Hylobates lar</i>)	623
 Communications to the Editors	
J. Čejka and K. Kithier: A simple method for the classification and typing of monoclonal immunoglobulins	629
H. Menninger, K. Fehr, A. Böni and K. Otto: Digestion of human immunoglobulin G by bovine cathepsin B1	633

AUGUST

P. Kuusela, E. Ruoslahti, E. Engvall and A. Vaheri: Immunological interspecies cross-reactions of fibroblast surface antigen (fibronectin)	639
T. M. Setcavage and Y. B. Kim: Characterization of porcine serum immunoglobulins IgG, IgM and IgA and the preparation of monospecific anti-chain sera	643
G. W. Welling, Gerda Groen, J. J. Beintema, M. Emmens and F. P. Schröder: Immunologic comparison of pancreatic ribonucleases	653
J. E. Mitchell, H. E. Conrad and E. W. Voss, Jr.: Radiochromatographic carbohydrate analyses of high and low affinity IgG antibodies	659
J. J. Marchalonis: Isolated, radioiodinated surface immunoglobulins of murine bone-marrow derived lymphocytes which bind the 2,4-dinitrophenyl hapten	667
J. R. Dawson: The solubilization of HLA antigens with detergents and partial characterization of the antigen-detergent complexes	671
C.-L. Lee, R.-C. Pai and M. Z. Atassi: Enzymic and immunochemical properties of lysozyme—XV. Delineation of the reactive site around the two central disulfides by immunochemical studies of novel synthetic peptides that contain diglycyl bridges instead of disulfides	681
S. I. Wie, K. A. Kelly and A. Froese: Properties of bovine colostral IgG ₁ anti-DNP antibodies—I. Isolation and binding studies	689
S. I. Wie, A. Froese and K. J. Dorrington: Properties of bovine colostral IgG ₁ anti-DNP antibodies—II. Circular dichroism studies	697
 Speculation	
R. Ramasamy: Attachment of the antigen receptor to the B cell membrane	705

Preliminary Communication

N. A. Andriopoulos, J. Mestecky, G. P. Wright and E. J. Miller: Characterization of antibodies to the native human collagens and to their component α chains in the sera and the joint fluids of patients with rheumatoid arthritis	709
Announcement	713

SEPTEMBER

M. Joniau, E. Stevens, A. De Smet and L. Verbist: Immunochemical studies on rabbit antibodies which bind rifampicin	715
D. C. Jackson and C. K. Grant: Tumour cell lysis mediated by IgG or F(ab ¹) ₂ antibody fragments and complement	721
L. G. Hoffmann: Antibodies as allosteric proteins—I. A hypothesis	725
L. G. Hoffmann: Antibodies as allosteric proteins—II. Comparison with experiment	731
L. G. Hoffmann: Antibodies as allosteric proteins—III. An alternative model, and some predictions	737
D. M. Lewis, D. A. Loegering and G. J. Gleich: Antiserum to the major basic protein of guinea pig eosinophil granules	743
K. Iida, T. Fujita, S. Inai, M. Sasaki, T. Kato and K. Kobayashi: Complement fixing abilities of IgA myeloma proteins and their fragments: the activation of complement through the classical pathway	747
G. W. Warr and J. J. Marchalonis: Glycoproteins of murine thymocyte and splenocyte surface membranes; binding to Concanavalin A and recognition by heterologous antilymphocyte serum	753
Yu. V. Ezepchuk, M. L. Beilbaeva and N. N. Kostyukova: A study of the protein-polysaccharide complex of <i>Neisseria meningitidis</i> serogroup A	759

SEPTEMBER—continued

Barbara Niedieck and Ursula Kuck: Comparative studies of galactosyl lipid immune reactions with and without cholesterol and cholesterol derivatives	765
H. Kitamura, N. Itakura and S. Inai: A new theoretical model of immune hemolysis: application to the reaction between EAC1-8 and C9	771
A. S. Saenko, T. P. Ilyina, V. K. Podgorodnichenko and A. M. Poverenny: Simple immunochemical method for measuring DNA repair rate in u.v.-irradiated bacteria	779
A. A. Kapsalis, A. S. Tung and A. Nisonoff: Relative combining affinities of anti- <i>p</i> -azophenylarsonate antibodies bearing a cross-reactive idiotypic	783
M. Loos, J. E. Volanakis and R. M. Stroud: Mode of interaction of different polyanions with the first (C1, C1 ⁻), the second (C2) and the fourth (C4) component of complement—III. Inhibition of C4 and C2 binding site(s) on C1 ⁻ s by polyanions	789

OCTOBER

G. Füst, Mária Csecsi-Nagy, G. A. Medgyesi, J. Kulics and J. Gergely: Study of the interaction between monoclonal IgM proteins and the complement system	793
D. L. Dexter: A function which describes quantitative adsorptions of antibodies by cell-surface antigens	801
K. Furuchi and J. Koyama: The effect of antigen dose on the amounts and affinities of guinea pig IgG1 and IgG2 anti-hapten antibodies	807
D. C. Morrison and Diane M. Jacobs: Binding of polymyxin B to the lipid A portion of bacterial lipopolysaccharides	813
A. H. Rule, Gundula Schaumburg-Lever, Ravindra P. Patel, Brigitte Schmidt-Ullrich and M. R. Okun: Purification of peroxidase by isoelectric focusing. Use of ultrastructural localization of immunoglobulins	819
A. U. Sargent, S. B. Johnson and A. K. Richardson: The isolation and functional purification of the first seven components of canine hemolytic complement	823
D. G. Wallace and D. Boulter: The sequence-immunology correlation among higher plant plastocyanins	831
S. B. Lehrer: Isolation and immunochemical properties of mouse IgE	837
M. E. Medof and F. Aladjem: Hapten-antibody interactions as determined by fluorescence polarization	845
P. Erwin and F. Aladjem: Hapten-antibody interactions as determined by fluorescence polarization—an appendix	868
 Preliminary Communication	
F. Skvaril: The question of specificity in binding human IgG subclasses to protein A-Sepharose	871

NOVEMBER

P. M. Erwin and F. Aladjem: The heterogeneity of antibodies with respect to equilibrium constants. Calculation by a new method using delta functions, and analysis of the results	873
P. K. Weck, T. C. Johnson and R. D. Ekstedt: Effects of PHA on rapidly synthesized RNA of murine splenic lymphocytes	885
F. J. Rowell and J. W. Paxton: Conformational and chemical requirements for antibody recognition of diphenylhydantoin derivatives	891
B. K. Seon and D. Pressman: Reduction of IgM and characterization of the products	895
L. M. Krausz, A. L. Grossberg and D. Pressman: Fine specificity of rabbit anti- <i>p</i> -azophenylphosphorylcholine antibodies; comparison with HOPC-8 myeloma protein	901
J. Halper and H. Metzger: The interaction of IgE with rat basophilic leukemia cells—VI. Inhibition by IgGa immune complexes	907
Geraldine C. Meinke and Hans L. Spiegelberg: Amino acid sequence of the first hypervariable region of 2 κ and α 1 Bence Jones cryoglobulin	915
Anna L. Tan-Wilson, M. Reichlin and R. W. Noble: Isolation and characterization of low and high affinity goat antibodies directed to single antigenic sites on human hemoglobin	921
B. N. Manjula, F. F. Richards and R. W. Rosenstein: The distance between the contact sites for Dnp and Menadione ligands in the combining region of myeloma proteins binding both haptens—I. Estimation of distance by fluorescent energy transfer in protein 460	929
R. W. Rosenstein and F. F. Richards: The distance between the contact sites for Dnp and Menadione ligands in the combining region of myeloma proteins binding both haptens—II. Estimation of distance using haptenic probes with variable length spacers	939
 Review Article	
E. A. Padlan, D. R. Davis, S. Rudikoff and M. Potter: Structural basis for the specificity of phosphorylcholine-binding immunoglobulins	945

DECEMBER

P. Brandtzaeg and A. Winsnes: Human secretory component—V. Lack of association with γ -glutamyl transpeptidase in colostrum	951
G. K. Von Schulthess, R. J. Cohen, N. Sakato and G. B. Benedek: Laser light scattering spectroscopic immunoassay for mouse IgA	955
G. K. Von Schulthess, R. J. Cohen and G. B. Benedek: Laser light scattering spectroscopic immunoassay in the agglutination-inhibition mode for human chorionic gonadotropin (hCG) and human luteinizing hormone (hLH)	963
H. Rohde, U. Becker, H. Nowack and R. Timpl: Antigenic structure of the aminoterminal region in type I procollagen. Characterization of sequential and conformational determinants	967
S. S. Asghar and R. H. Cormane: Interaction of the B-determinant of the third component of complement with amidino compounds	975
M. Stanislawski and M. Mitard: Recognition of two subclasses of mouse IgG1 (F)	979
L. A. Zamchuk, Nina M. Magradze and D. M. Goldfarb: Immunogenic DNA of <i>Shigella sonnei</i> bacteriophage	985
J. Jouanneau and R. Bourrillon: Human pathologic IgM glycopeptides. Evidence for a very high mannose content glycopeptide	991
J. D. Capra and J. E. Hopper: Comparative studies on monotypic IgM lambda and IgG kappa from an individual patient—III. The complete amino acid sequence of the V _H region of the IgM paraprotein	995
A. I. Käivärinen and R. S. Nezlin: Spin-label approach to conformational properties of immunoglobulins	1001
 Letters to the Editors	
J. E. Butler: Isolation and physico-chemical characterization of bovine serum and colostral immunoglobulin G(IgG) subclasses—a comment	1009
T. K. S. Mukkur: Rejoinder	1011

AUTHOR INDEX

Absolom, D., 499	Calvanico, N. J., 203	Emmens, M., 653
Aggarwal, S. J., 215	Cameron, Deborah J., 263	Engvall, E., 639
Aladjem, F., 845, 868, 873	Canady, W. J., 229	Erlanger, B. F., 263
Alpert, E., 87, 285	Capra, J. D., 605, 995	Erwin, P. M., 868, 873
Andriopoulos, N. A., 709	Castello, G., 373	Eschenfeldt, W., 447
Aoki, T., 461	Cebra, J. J., 103	Ezepchuk, Yu. V., 759
Arima, T., 245	Čejka, J., 629	
Arnon, Ruth, 333, 485	Chaichanawong, S., 623	Fanger, M. W., 121, 129
Asghar, S. S., 975	Clem, L. W., 479	Faure, A., 47
Atassi, M. Z., 7, 547, 681	Clemetson, K. J., 383	Fehr, K., 633
Baldo, B. A., 1	Cohen, R. J., 955, 963	Fett, J. W., 149
Baranov, O. K., 361	Comoglio, P. M., 97	Finkelstein, R. A., 605
Barger, B. O., 165	Cone, R. E., 571	Florio, Linda, 395
Bazin, H., 613	Conrad, D. H., 329	Freed, R. M., 509, 517
Becker, U., 967	Conrad, H. E., 659	Freedman, M., 193
Beilbaeva, M. L., 759	Conroy, J. M., 599	Froese, A., 689, 697
Beintema, J. J., 653	Cordal, María E., 209	Fujita, T., 747
Bell, G. I., 21	Cormane, R. H., 975	Furiuchi, K., 455, 807
Benedek, G. B., 955, 963	Courtenay, Barbara M., 429	Füst, G., 793
Ben-Yoseph, Y., 485	Cíecsi-Nagy, Mária, 793	
Berczi, I., 329	Czernichow, P., 389	
Bernier, G. M., 129	Davies, D. R., 945	Gattien, J. G., 59
Berrens, L., 367	Davis, R. C., 509, 517	Geiger, B., 485
Bertschmann, M., 383	Dawson, J. R., 671	Geraci, D., 475
Billecocq, A., 289	Day, E. D., 307	Gergely, J., 793
Binaghi, R. A., 443	DeLisi, C., 21, 29	Germano, Angelo, 373
Blanden, R. V., 179	Delpach, Annie, 111	Gettman, D., 299
Blue, W. T., 295	Delpach, B., 111	Gill, T. J., III 613
Böni, A., 633	Deutsch, H. F., 149	Glaudemans, C. P. J., 469
Boulter, D., 831	Dexter, D. L., 801	Gleich, G. J., 743
Bourrillon, R., 991	Doellgast, G. J., 135	Goldfarb, D. M., 81, 985
Boussac-Aron, Yolande, 443	Dorrington, K. D., 697	Goldstein, B., 29
Brandtzaeg, P., 951	Dray, F., 389	Gollwitzer, R., 339
Braude, Natalia A., 81	Dupouey, P., 289	Goncharova, A. Ya., 585
Broughton, A., 437		Gorshkova, R. P., 581
Brown, W. C., 571	Eichmann, K., 1	Grant, C. K., 721
Budman, D., 417	Eisenberg, R., 355	Groen, Gerda, 653
Buffolano, Wilma, 373	Ekstedt, R. D., 885	Grossberg, A. L., 51, 559, 901
Butler, J. E., 1009	Elegbe, R. A., 425	Guikers, C. L. H., 367

AUTHOR INDEX—*continued*

- Habeeb, A. F. S. A., 7, 547
 Hahn, E., 339
 Halbwachs, Lise, 317
 Halper, J., 907
 Häammerling, U., 525, 533
 Hapel, A. J., 179
 Hardie, Gwendoline, 503
 Heidelberger, M., 67
 Herz, A., 333
 Hill, H.-U., 251
 Hobart, M. J., 317
 Hoffmann, L. G., 725, 731, 737
 Hopper, J. E., 995
 Howard, J. G., 429
 Iacono, V. J., 235
 Ihämäki, T., 313
 Iida, K., 747
 Ikenaka, T., 245
 Ilyina, T. P., 779
 Inai, S., 747, 771
 Inman, F. P., 165
 Ishizaka, K., 345
 Isselbacher, K. J., 87, 285
 Itakura, N., 771
 Jackson, D. C., 179, 721
 Jacobs, A., 477
 Jacobs, Diane M., 813
 Jeanloz, R. W., 285
 Johnson, S. B., 823
 Johnson, T. C., 885
 Jollès, P., 47
 Jones, B. M., 477
 Jones, F. R., 437
 Joniau, M., 715
 Jouanneau, J., 991
 Kahan, B. D., 565
 Käiväräinen, A. I., 1001
 Kapsalis, A. A., 783
 Kato, M., 455
 Kato, T., 747
 Kelly, K. A., 689
 Kim, Y. B., 643
 Kitamura, H., 771
 Kithier, K., 629
 Klapper, D. G., 605
 Kobayashi, K., 747
 König, W., 345
 Kostyukova, N. N., 759
 Koyama, J., 455, 807
 Krausz, L. M., 51, 901
 Kuck, Ursula, 765
 Kulics, J., 793
 Kumazawa, Y., 173
 Kuusela, P., 639
 Lachmann, P. J., 317
 Ladoulis, C. T., 613
 Lamazière, J., 39
 Lange, C. F., 295
 Lee, C.-H., 7, 547, 681
 Lefroit, M., 289
 Lehrer, S. B., 837
 Lewis, D. M., 743
 Loegering, D. A., 743
 Loos, M., 251, 257, 789
 Lotter, Helga, 339
 Lucky, P., 417
 Lüscher, E. F., 383
 Mack, C., 525, 533
 Magradze, Nina M., 985
 Maldyk, H., 379
 Mandy, W. J., 215, 221, 401
 Manjula, B. N., 469, 929
 Marchalonis, J. J., 667, 753
 Margni, R. A., 209
 Martin, Angela, 317
 Marucci, A. A., 599
 Masters, D., 533
 McCumber, L. J., 479
 McFarlane, H., 425
 Medgyesi, G. A., 793
 Medof, M. E., 845
 Meinke, Geraldine C., 915
 Melamed, M. D., 271, 281
 Menegozzo, M., 475
 Menninger, H., 633
 Merler, E., 59
 Merrett, R., 193
 Mesteky, J., 325, 709
 Metzger, H., 417, 907
 Miglierina, R., 39
 Mihaesco, C., 39
 Mihaesco, Edith, 39
 Miller, E. J., 709
 Misra, D. N., 613
 Mitard, M., 979
 Mitchell, J. E., 659
 Mittal, K. K., 565
 Mizunoe, K., 173
 Moreno, C., 429
 Moreno, E. C., 235
 Morrison, D. C., 813
 Mukkur, T. K. S., 1011
 Müller, F., 117
 Nabeshima, Y., 245
 Nakamura, T., 455
 Nezlin, R. S., 1001
 Niedermeier, W., 325
 Niedieck, Barbara, 765
 Nimmich, W., 67
 Nisonoff, A., 783
 Nivet, C., 539
 Noble, R. W., 491, 921
 Nowack, H., 339, 967
 Nutt, Nan B., 559
 Okun, M. R., 819
 Olusi, S. O., 425
 Orin, G. B., 517
 Otto, K., 633
 Ovodov, Y. S., 581
 Owen, Frances L., 121, 129
 Padlan, E. A., 945
 Pai, R.-C., 681
 Patel, Ravindra P., 819
 Paxton, J. W., 891
 Paz, Carmen B., 209
 Pépin, J.-P., 47
 Perrudet-Badoux, Anne, 443
 Pickel, H. G., 525, 533
 Pihko, Helena, 313
 Pincus, J. H., 565
 Pitts, O. M., 307
 Plaut, A. G., 135
 Podgorodnichenko, V. K., 585, 779
 Potter, M., 945
 Poverenny, A. M., 585, 779
 Prat, Maria, 97
 Pressman, D., 51, 407, 559, 895, 901
 Pruzanski, W., 193
 Raepple, Elisabeth, 251
 Ramasamy, R., 705
 Reese, R. T., 103
 Reichlin, M., 491, 921
 Reisfeld, R. A., 35
 Richards, F. F., 929, 939
 Richardson, A. K., 823
 Robinson, D. A., 229
 Rockey, J. H., 509, 517
 Rohde, H., 967
 Ronne, J., 389
 Root, R. T., 447
 Rosenstein, R. W., 929, 939
 Rowell, F. J., 891
 Roy, J. P., 39
 Rubinstein, A., 59
 Rudikoff, S., 945
 Ruffilli, Anna, 475
 Rule, A. H., 819
 Ruoslaitti, E., 313, 639
 Saenko, A. S., 779
 Sakato, N., 955
 Sapeika, Gillian, 499
 Sargent, A. U., 823
 Sasaki, M., 747
 Sawyer, W. H., 141
 Schaumburg-Lever, Gundula, 819
 Schmidt-Ullrich, Brigitte, 819
 Schröder, F. P., 653
 Sebaldt, R. J., 473
 Segerling, M., 117
 Sela, M., 333
 Seligmann, M., 39
 Seon, B. K., 407, 895
 Setcavage, T. M., 643
 Sevier, E. D., 35
 Shibusawa, A., 173
 Shimizu, A., 461
 Sirisinha, S., 623
 Siurala, M., 313
 Skvaril, F., 325, 871
 de Smet, A., 715
 Smith, D. J., 235
 Spiegelberg, H. L., 915
 Spitzer, R. E., 15, 395
 Stanislawski, M., 979
 Staub, A. M., 539
 Stevens, E., 715
 Stitzel, Ann E., 15, 395
 Stott, D. I., 157
 Stroud, R. M., 257, 789
 Suzuki, T., 173
 Svenberg, T., 313
 Swierczynska, Z., 379
 Tan-Wilson, Anna L., 491, 921
 Taubman, M. A., 235
 Taylor, R. P., 299
 Teherani, J., 221, 401
 Teitelbaum, D., 333
 Timpl, R., 339
 Tomana, M., 325
 Tomasi, T. B., 203
 Tung, A. S., 783

AUTHOR INDEX—*continued*

- Uhlenbruck, G., 1
Urmson, Joan, 15, 395
- Vaheri, A., 639
Van Regenmortel, M. H. V., 499, 503
Van Rijswijk-Verbeek, J., 367
Varitek, V. A., 307
Verbist, L., 715
Vidard, Maria-Noëlle, 111
Volanakis, J. E., 257, 789
Von Schulthess, G. K., 955, 963
Voss, Jr., E. W., 447, 659
- Vrba, R., 87, 285
Vuento, M., 313
- Wagstaff, M., 437
Wallace, D. G., 831
Wallwork, J. C., 425
Warr, G. W., 753
Webb, C., 333
Weck, P. K., 885
Welling, G. W., 653
Westfall, S., 229
Widmer, S., 383
Wie, S. I., 689, 697
Willadsen, P., 591
- Williams, P. G., 591
Winsnes, A., 951
Winzor, D. J., 141
Wirtz, G. H., 229
Worwood, M., 477
Wozniczko-Orlowska, G., 379
Wright, G. P., 709
- Yamamura, Y., 461
- Zamchuk, Ludmila A., 81, 985
Zappacosta, S., 373
Zubkov, V. A., 581

Immunochemistry

Aims and Scope

(Revised January 1973)

Immunochemistry involves the specialized disciplines of many fields of physical, biological and medical sciences. Most investigators who are interested in immunochemistry are specialists in one or more of these disciplines and, as a result, immunochemical literature appears in a wide variety of journals and other types of publications. The purpose of *Immunochemistry* is to eliminate the necessity for such dispersed publication by serving as a specific medium for material dealing with the chemical and physical aspects of immunology and related problems. The journal is not intended to be competitive with any of the present journals dealing with general immunology but is to be more specifically a chemical journal dealing with antigens and antibodies, including the biosynthesis of immunoglobulins and other molecular aspects of the immune response.

Several types of articles will be published including Book Reviews. The major category will be complete and detailed research reports, which have not been previously published, with each report containing sufficient data to enable other investigators to repeat the study. Brief Communications will be processed and published as quickly as possible and may be in the nature of preliminary report limited to a space equivalent to 1000 words, including tables. Enough information must be included to justify conclusions. To accelerate their publication, proofs will not be sent to authors but will be checked by the editorial staff of Pergamon Press. Figures and half tone illustrations should only be included if they are absolutely essential and proofs will, in these cases, be sent to authors. It is imperative that manuscripts submitted as Brief Communications should be suitable for printing without alteration.

Speculations. This category of subject matter was accepted beginning in 1972. It is intended to provide an opportunity for investigators to elaborate on investigations of the theoretical significance of information presented by other investigators. Speculations must be based on reasonable assumptions and facts.

Methodology. This category will provide the opportunity for an investigator to describe new methods or modifications of established methods which are often obscured in a detailed research report. It will also provide an outlet for valuable information on the comparative significance of different immunochemical methods used to obtain similar information.

Review Articles. Review Articles will be published at the invitation of the Editor for Review Articles. Anyone wishing to publish a critical review on a timely subject related to Immunochemistry should contact the Regional Editor for his or her respective region.

Book Reviews. Publishers or authors wishing to have a book reviewed should contact the Book Review Editor.

Announcements. Announcements of forthcoming meetings or conferences of immunochemical interest should be forwarded in duplicate to a Regional Editor for publication.

SUMMARIES OF MEETINGS AND CONFERENCES. Such summaries may be published in the form of abstracts of reports as, for example, abstracts of papers presented at the Symposium on Immunochemistry held in Interlaken, Switzerland in 1970. Summaries of the action of workshops dealing with specific problems such as nomenclature will also be published.

Preliminary Communications. To provide rapid dissemination of timely and significant observations in molecular immunology *Immunochemistry* will publish preliminary communications in the form of a photographic reproduction of the original typescript. It is anticipated that these will appear within eight weeks after acceptance by a Region Editor.

Notes for Contributors

All manuscripts and material to be published must be sent to a Regional Editor with a covering letter of transmittal stating the category or section of preference in the Journal. The letter should also give the name and address of the person to whom all subsequent correspondence should be directed.

Since this Journal is intended for international participation by investigators in molecular immunology, manuscripts will be published in English, French or German.

The contents of contributions shall be the sole responsibility of the authors. Publication shall not imply the concurrence of the Editors or publishers with the author's interpretations, conclusions or validity of data.

Submission of manuscripts. Manuscripts should be sent to one of the regional Editors. Contributions from France should be sent to Professor Bussard; those from Switzerland and the British Isles to Professor Isliker. Manuscripts from other European countries, the Middle East and Africa may be sent to one of the above Editors or Dr. Nezlin. Manuscripts from the Far East, including Japan and Australia, should be sent to Professor Ada. Manuscripts from the Eastern United States, Eastern Canada, Mexico and South America, should be sent to Professor Karush; those from the Western United States and Western Canada should be sent to Professor Koshland. The manuscript and diagrams will be discarded one month after publication unless the publisher is requested to return original material to the author.

Acceptance and publication. Manuscripts which are regarded as scientifically sound will be given a priority rating by the reviewers. This rating will determine if the paper is to be accepted for publication and the interval between acceptance and publication. Those papers given the highest rating because of their significance, timeliness or novelty will be published on the average in four months and in not more than six months. Other papers which do not merit the highest priority but are considered as substantial contributions will be published on the average in five months and in not more than seven months. The publication of other manuscripts is subject to the limitations of available space and may, if accepted, take longer than seven months.

Form of contributions. All contributions must be submitted in typewritten duplicate and with lines at least double spaced and with margins which provide sufficient space for notations. Submission of three copies of the manuscript will facilitate refereeing and rapid publication. At the discretion of the author an abstract could be submitted with the article in the language of the country of origin of the author. All papers must have an accompanying abstract in English as well as in the language used for the article. Manuscripts dealing with experimental work should be divided into major sections such as, Introduction (optional), Experimental (with Materials, Methods and Results) followed by Discussion, Conclusions and References. If a large number of abbreviations are used e.g. sRNA, EA, Ag, EEM etc., it may be advisable to include a glossary defining such terms.

The title, with authors and their affiliations, should be placed on a separate page. On the same page an abbreviated title should be given for use as a running headline.

References should be quoted in the text by author's name and date in brackets, e.g. Smith (1960). The full references should be cited in an alphabetical list at the end of the paper using the following style:

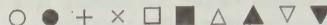
Campbell D. H. and Lanni F. (1951) *Amino Acids and Proteins* (Edited by Greenberg D. M.), p. 649. Thomas, Springfield, Ill.
Franklin E. C., Fudenberg H., Meltzler M. and Stanworth D. R. (1962) *Proc. natn. Acad. Sci. U.S.A.* **49**, 914.

Footnotes. Statements or references which do not fit into the text of the paper may be quoted by the following symbols; *, †, ‡, §, starting afresh on each page, e.g. crystalline trypsin*. Footnotes should be typed at the bottom of the page on which they appear.

Immunochemistry

Tables. In the interest of economy and in order to avoid the introduction of errors, tables will be reproduced by photo-offset means directly from the author's typed manuscripts. All tabular material, flow charts etc., should be typed on a separate manuscript page and should be intelligible without reference to the text. Headings should be concise, should clearly present the subject matter, and should be a part of the table. Footnotes to tables should be placed on the same page and designated by superscripts, a, b, c etc., instead of numbers. In case of difficulty, please consult the Photoreprographic Unit of your institution.

Graphs and illustrations. Figures and illustrations which must be kept to a minimum, should be included separately and not as part of the text. They should be about twice the published size and be clearly marked on the back as to top, number and author's name. Particular attention should be given to the size of the lettering to avoid unduly small letters in the published version. Either the original or glossy prints may be used if care is taken in making good reproduction. Immunoelectrophoretic patterns and other optical patterns should normally be provided in the form of photographic reproductions of the actual pattern, not as line drawings. Two sets of these patterns, as well as gel diffusion patterns, should be sent; one labelled with symbols which are descriptive of the materials employed and which do not require reference to the legend for their identification; the other duplicate photographs without labelling or symbols. The position of figures or illustrations should be indicated on the manuscript. Legends should be given on a separate page and clearly present enough information to make the figure understandable. The following standard symbols should be used on line diagrams:



General considerations. It is important to all concerned that a manuscript be carefully read for errors and clarity before sending it to an Editor. Presentation of data in duplicate form should be avoided and manuscripts will be scanned for excessive length.

Reprints. Where the research is supported by a fund which can be used for page charges, the author is invited to make a voluntary contribution towards publication costs, in which case 100 free reprints are provided. Further reprints in multiples of 50 can be obtained at reasonable cost if ordered before publication, and an order form for this purpose will be sent to the author.

Proofs. The individual to whom proofs are to be sent should be indicated at the bottom of the title page, together with the complete mailing address. Corrections to the paper at this stage must be restricted to typographical errors. Any substantial alterations may be charged to the author.

Instructions for the preparation of preliminary communications. It should be pointed out that the typewritten manuscript is reproduced photographically and as each communication is a separate entity, an odd number of pages results in a blank page, which costs almost as much to produce as a full page. Consequently authors are requested to send papers of 2 or 4 pages.

1. Manuscripts should be typed, single spaced, using a black ribbon on good quality white bond paper (blue ink, carbons or photocopies will not reproduce satisfactorily). The typist should ensure a clean clear impression on the letters.

2. Special layout sheets, 26.5 cm wide by 38 cm deep, containing the exact typing area, 20 cm by 31 cm, will be supplied on request to any of the Regional Editors.

3. Paper of any size may be used, provided the actual typing area is 20 cm by 31 cm, the margins being provided during reproduction. The title should be all in capital letters, centred on the width of page 1. After a 4-line space, the author's name should be typed, and after a two-line space the author's address should be typed capitalizing the first letter of all main words. A six-line space following the author's address should be left before commencing to type the text of the article. The typing area of page 1, including the title should be 20 cm wide by 29 cm deep. The typing area of all other pages should be extended to a depth of 31 cm.

4. The drawing of formulae, graphs and other figures should be included in the text, so as not to exceed the specified typing area. Illustrations may be in the form of glossy prints pasted into the appropriate place or else they may be carefully drawn in black ink on to the typing area in a size that will remain legible after a slight reduction. Again ensure that the caption does not become confused with the text.

5. Each page should be numbered lightly at the bottom of the sheet in blue pencil.

6. An assurance should be given that the material has not been published or submitted elsewhere in preliminary form.

7. Preliminary communications should be submitted to the appropriate Regional Editor—see *Submission of manuscripts above*